CLAIMS

We claim:

(1) An electronic power supply apparatus, comprising:

a source power supply which supplies to a system electric power received from an external power source;

a battery which is charged with electric power supplied from said source power supply and which discharges electric power to said system; and

an electric power supply controller coupled to said source power supply and to said battery and which controls supply of electric power to said system from said source power supply and said battery;

said electric power supply controller switching supply of electric power between said source power supply and said battery to said system based upon:

a) connection status of said source power supply, and

b) connection status of said battery, and

c) a system parameter indicative of the status of said system.

(2) The electric power supply apparatus according to Claim 1;

wherein said system parameter is indicative the load drawn by said system and wherein said electric power supply controller instructs said source power supply to stop its operation, thereby reducing the power consumption of said system when said system is loaded below a predetermined threshold.

(3) The electric power supply apparatus according to Claim 1;

wherein said system parameter is indicative of the capacity of said battery and wherein said electric power supply controller instructs said source power supply to supply electric power to said battery so as to charge it when the residual capacity in said battery goes under a predetermined value due to discharging.

(4) An electric power supply apparatus, comprising:

an AC adapter connected to an AC power source and enabled to supply electric power to an electric device connected thereto;

a battery which is charged with electric power supplied from said AC adapter and is enabled to discharge electric power to said electric device; and

a controller which controls the supply of electric power so that said battery supplies electric power to said electric device while said electric device connected to said AC adapter is loaded below a predetermined value.

(5) The electric power supply apparatus according to Claim 4;

wherein said controller controls so as to stop the operation of said AC adapter while said electric device is loaded below a predetermined value.

(6) The electric power supply apparatus according to Claim 5;

wherein said controller detects the residual capacity in said battery and activates said AC adapter to start charging of said battery if said detected residual capacity is under a predetermined value.

(7) The electric power supply apparatus according to Claim 6;

wherein said controller stops the operation of said AC adapter at the end of charging of said battery.

(8) An electric device connectable to a source power supply for supplying electric power received from an external power source thereto and a battery that supplies electric power thereto by repeatedly charging and discharging, comprising:

a battery capacity detector which detects the residual battery capacity in said battery;

a comparator which determines said battery capacity is over a predetermined value as detected by said battery capacity detector;

a battery power supply which supplies electric power to said device from said battery if said battery capacity is over said predetermined value as determined by said comparator while load from said electric device is below a predetermined value; and

a source power supply controller which stops the operation of said source power supply.

(9) The electric device according to Claim 8;

wherein said electric device is a car.

(10) The electric device according to Claim 8;

wherein said electric device is a computer.

(11) The electric device according to Claim 8;

wherein said comparator determines said residual battery capacity is over said predetermined value after said battery power supply supplies electric power to said battery; and

said electric device further includes a charger which operates said source power supply so as to charge said battery if the residual capacity in said battery is under said predetermined value as determined by said comparator.

(12) A computer connectable to an AC adapter and consuming predetermined electric power even when it is powered off, said computer comprising:

a power supply path connected to a secondary battery that repeatedly charges and discharges and supplies electric power to said computer; and

a controller which stops the operation of said AC adapter connected thereto when said computer is powered off and enables said battery to supply electric power required for said predetermined electric power via said power supply path.

(13) The computer according to Claim 12;

wherein said controller detects the residual capacity of said secondary battery, which is reduced due to discharging and charges said secondary battery by activating said AC adapter if said detected residual capacity is under a predetermined value.

(14) An electric power supply method employed for an electric device when said electric device is powered off or loaded lightly, said electric device being connected to a source power supply for supplying electric power received from an external power source and a battery for supplying electric power by repeated charging and discharging, said method comprising the steps of:

detecting the residual capacity in said battery;

stopping the operation of said source power supply if said detected residual capacity in said battery is under a predetermined value; and

enabling said battery to discharge electricity so as to supply electric power to said electric device when said electric device is loaded below a predetermined value.

(15) The electric power supply method according to Claim (14);

wherein said method further includes the steps of:

detecting the residual capacity in said battery, which is changed due to its discharging;

activating said source power supply if said detected residual capacity in said battery is under said predetermined value; and

enabling said source power supply to charge said battery.